REMARKS

Claims 1, 3-9 and 16-18 are pending. The Examiner's reconsideration of the objections and rejections is respectfully requested in view of the remarks.

Applicants appreciate the courtesies extended by the Examiner during the telephone conference of April 5, 2006, during which Claims 1 and 2 were discussed. The above-amended Claims 1 and 16 are believed to be allowable over the art of record. Claims 2 and 19 have been cancelled as being duplicative of Claims 1 and 16, respectively.

Claims 1-3 and 6-8 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Mahoney (US 2003/0042291) in view of Yen et al. (USPN 4,157,923). The Examiner stated essentially that the combined teachings of Mahoney and Yen teach or suggest all the limitations of claims 1-3 and 6-8.

Claim 1 claims, *inter alia*, "mixing all the thermal spray coating and all the substrate by friction stir welding, forming a monolithic composite material consisting of the thermal spray coating and the substrate."

Mahoney teaches a method of welding two workpieces having an interface layer deposited there between (see paragraph [0033]). Mahoney does not teach or suggest "mixing all the thermal spray coating and all the substrate by friction stir

welding, forming a monolithic composite material" as claimed in Claim 1. Mahoney's method forms a weld comprising the first and second workpieces and the interface layer. A weld is formed only at an interface. The weld of Mahoney does not mix all of a thermal spray and a substrate; Mahoney does not teach or suggest a monolithic composite material consisting of a thermal spray coating and a substrate, essentially as claimed in Claim 1. Therefore, Mahoney fails to teach or suggest all the limitations of Claim 1.

Further, one skilled in the art at the time the present application was filed would know the term "monolithic" to mean a mixture of all a thermal spray coating and all a substrate in view of the specification.

Yen teaches treating a deposited layer and a surface of a subjacent portion of a base metal (see Figures 1-7). Yen does not teach or suggest "mixing all the thermal spray coating and all the substrate by friction stir welding, forming a monolithic composite material" as claimed in claim 1. Yen teaches only surfacing of the base material. The surface treatment of Yen does not form a monolithic structure. Yen does not teach or suggest the formation of a monolithic composite material as claimed in claim 1. Therefore, Yen fails to cure the deficiencies of Mahoney.

The combined teachings of Mahoney and Yen fail to teach or suggest "mixing all the thermal spray coating and all the substrate by friction stir welding, forming a monolithic composite material" as claimed in Claim 1.

Claims 3 and 6-8 depend from Claim 1. The dependent claims are believed to be allowable for at least the reasons given for Claim 1. Claim 2 has been cancelled. The Examiner's reconsideration of the rejection is respectfully requested.

Claims 4 and 5 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Mahoney in view of Yen as applied to Claims 1-3 and 6-8, and further in view of Lazarz et al. (USPN 6,227,435). The Examiner stated essentially that the combined teachings of Mahoney, Yen and Lazarz teach or suggest all the limitations of Claims 4 and 5.

Claims 4 and 5 depend from Claim 1. The dependent claims are believed to be allowable for at least the reasons given for Claim 1. The Examiner's reconsideration of the rejection is respectfully requested.

Claim 9 has been rejected to under 35 U.S.C. 103(a) as being unpatentable over Mahoney in view of Yen as applied to Claims 1-3 and 6-8 above, and further in view of Sherman (US 2003/0012678). The Examiner stated essentially that the combined

teachings of Mahoney, Yen and Sherman teach or suggest all the limitations of Claim 9.

Claim 9 depends from Claim 1. The dependent claim is believed to be allowable for at least the reasons given for Claim 1. The Examiner's reconsideration of the rejection is respectfully requested.

Claims 16-18 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Mahoney in view of Yen as applied to Claims 1-3 and 6-8 above, and further in view of Salito (USPN 6,113,991). The Examiner stated essentially that the combined teachings of Mahoney, Yen and Salito teach or suggest all the limitations of Claims 16-18.

Claim 16 claims, "forming a monolithic composite material by mixing all the thermal spray coating and all the substrate by friction stir welding."

In view of the discussion of Claim 1 above, Claim 16 is believed to be allowable over Mahoney, Yen.

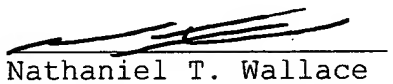
Referring now to Salito, Salito teaches a method for coating a carbon substrate (see Abstract). Salito does not teach or suggest "forming a monolithic composite material by mixing all the thermal spray coating and all the substrate by friction stir welding" as claimed in Claim 16. Therefore, Salito fails to cure the deficiencies of Mahoney and Yen.

The combined teachings of Salito with Mahoney and Yen fail to teach or suggest "forming a monolithic composite material by mixing all the thermal spray coating and all the substrate by friction stir welding" as claimed in Claim 16.

Claims 17 and 18 depend from Claim 16. The dependent claims are believed to be allowable for at least the reasons given for Claim 16. Claim 19 has been cancelled. Reconsideration of the rejection is respectfully requested.

For the forgoing reasons, the application, including Claims 1, 3-9 and 16-19, is believed to be in condition for allowance. Early and favorable reconsideration of the case is respectfully requested.

Respectfully submitted,

By: 

Nathaniel T. Wallace
Reg. No. 48,909
Attorney for Applicant(s)

Mailing Address:
F. CHAU & ASSOCIATES, LLC
130 Woodbury Road
Woodbury, New York 11797
TEL: (516) 692-8888
FAX: (516) 692-8889